

161. In view of the absence of barriers to entry and the absence of abnormal profit in the industry, there simply is no important market power left for Southwestern Bell to compete away. Since divestiture, the entry of numerous sellers has competed away the profit opportunities that previously existed.

2. *Evidence about Southwestern Bell's Likely Role in Long Distance Based on Its Performance in Local Toll*

162. Recently, regulators have overcome Southwestern Bell's stiff resistance to competition in local (intra-LATA) toll markets in its territory, including Oklahoma. To the consumer's benefit, Southwestern Bell faces competition from the four major long-distance carriers and from a number of smaller carriers in local toll markets. Though Southwestern Bell's experts create the impression that the company would bid the price down in the long-distance market and reduce price differences between large and small users, nothing in Southwestern Bell's pricing in the Oklahoma local toll market supports the proposition that it is a low-price seller.

163. Professor Schmalensee believes that the entry of Southwestern Bell into long distance may lead to lower prices for the low-usage customer.⁵⁹ Likewise, Professor Kahn and Dr. Tardiff believe that Southwestern Bell's entry will remedy this supposed failure of competition in long distance to benefit low-usage customers.⁶⁰ I disagree. First, I believe that the price differences are almost entirely cost based. Second, a substantial number of customers do not have sufficient usage for them to investigate cheaper plans. Third, Southwestern Bell's record in intra-LATA toll shows them to be targeting the high-volume customer.

164. Southwestern Bell low-usage customers pay standard rates. These rates for intra-LATA toll range from 12 cents to 55 cents for the first minute of use to 7 cents to 47 cents for each additional minute. High-volume users have a variety of services to choose from. For example, a Southwestern Bell customer can pay a flat rate of 25 cents per call for local toll calls, but there is a minimum of \$7.50, which covers the first fifteen calls. Alternatively, a Southwestern Bell customer can purchase an hour of calling for \$9.60. High volume callers can get a flat rate, which covers all calls. Better rates for low-volume customers are available from other carriers. For example, Sprint charges 15 cents per minute for calls after 7 pm under

⁵⁹ *Schmalensee Affidavit*, p. 9.

⁶⁰ *Kahn-Tardiff Affidavit*, p. 11.

Sprint Sense, with no fixed charge or minimum bill. MCI's price is 15 cents (12 cents if calling exceeds \$25) at all times of the day under MCI One with a \$5 minimum charge per month applied across all MCI products.

165. As these rates show, only Southwestern Bell has failed to provide a plan for the low-volume user. MCI, Sprint, and WorldCom all provide local rates comparable to their long-distance rates.

166. Based on this evidence, it appears likely that Southwestern Bell would be at the upper end of the price distribution were it to offer long-distance service. Unlike the more aggressive long-distance carriers, Southwestern Bell would rely on methods other than the offering of low prices to attract customers.

167. In section I of Part III, I concluded that pricing patterns for toll calls reflect cost differences between low and high-volume customers and were not an artifact of high levels of market power. Based on Southwestern Bell's pricing plans in its local toll markets, there is every reason to expect that Southwestern Bell would follow the other carriers in adopting pricing plans that reflect the lower costs of serving higher-volume customers by promoting low-price plans selectively to these customers.

168. Both Southwestern Bell's behavior in local toll markets and SNET's behavior after it began to sell long-distance services, reviewed in section M of Part IV, tell the same story: When incumbent local carriers compete with independent toll carriers, the local carriers position themselves toward the top of the distribution of rates. They do not offer telephone customers choices superior to those available from the independent carriers. The opening of local toll markets to competition has been beneficial because it has brought in low-price sellers, and will be even more beneficial if determined interference by local carriers can be overcome. On the other hand, the addition of high-price local carriers to the existing competitive long-distance market will not add to consumer welfare.

C. Issues of Cooperation and Competition Raised by Southwestern Bell's Proposal

169. As I noted in Part IV, the purpose of the existing policy of structural separation is to ensure cooperation between the local carriers such as Southwestern Bell and the downstream long-distance carriers, who are dependent on the local carriers. One reason for changing the policy might be that the need for

cooperation has declined. But trends in telecommunications appear to be sharply in the opposite direction. As the telephone network becomes more sophisticated, the amount of technical information about the local network and interaction between the local network and the long-distance carrier is becoming greater. To put it differently, the consequences to a long-distance carrier of lack of cooperation from a local carrier are greater today than in 1982 when the decision to impose structural separation was made. As soon as a local carrier such as Southwestern Bell controls a long-distance carrier, the local carrier will owe its shareholders a duty of non-cooperation with its rivals in long distance. Competing with rivals, not helping them, is a central principle of the American economy.

170. The premise that vertical integration is a danger to the long-distance consumer is embodied in the Telecommunications Act of 1996, which requires that local competition reach a threshold level before a local carrier is permitted to control a long-distance carrier. As I concluded in Part C, local competition in Oklahoma is far short of that threshold.

D. Implications of High Access Charges

171. As I noted in Part IV, a full analysis of the effects of control of a long-distance carrier by a local carrier depends on the level of access charges the local carrier is allowed to impose on long-distance carriers and on the state of competition in local markets for access services. It is well accepted that current access charges exceed cost by a wide margin. As a result, local carriers have an incentive to expand their long-distance operations that is the artificial consequence of overpriced access and is not matched by any incentive available to independent long-distance carriers.

172. If SBC achieves a significant share of the long-distance business of its Oklahoma subscribers—a possibility enlarged by high access charges that inhibit its rivals in that business—the likelihood of entry and improved competition in local service in Oklahoma will be reduced. Whereas independent long-distance carriers would be enthusiastic customers of new local carriers, SBC's long-distance arm will presumably purchase access only from its affiliated dominant local carrier.

E. The WEFA Study

173. The WEFA study, as put forth by Dr. Michael Raimondi in his affidavit, claims that substantial consumer benefits could be derived from long-distance competition if only Southwestern Bell were permitted to compete. These benefits arise because, in his opinion, long-distance prices will fall at least 5 percent per year over the next five years as a result of SBC's control of a long-distance carrier. Second, increased competition in the long-distance market and lower prices will lead to productivity gains and quality improvements in the use of information services of 2 percent per year. Third, lower long-distance prices and the productivity gains in the information services market will increase labor participation rates by 0.5 percent per year because of the increased viability of telecommuting.⁶¹

174. According to WEFA, the information services market will benefit from the increased competition in the long-distance market because of enhancements to the public network. But many of these enhancements are enhancements that are needed at the local service level. Most access to the Internet is through the local network because local usage is unmetered. It is local competition that is likely to bring about these enhancements, not long-distance competition.

175. WEFA makes only vague assertions that the entry of Southwestern Bell into long distance will increase competition which will enhance the network and increase productivity in the usage of information services by 2 percent per year. Nowhere does the study explain how productivity will be enhanced. These conclusions seem particularly unlikely based on the BOCs' record with respect to Internet access.

176. So far, the BOCs have resisted enhancing access to the Internet. Rather, their concern is to restrict usage and capture part of the revenue stream. At the moment, the Internet is thriving precisely because the BOCs have been unable to impose access charges on the Internet providers. Many believe that the BOCs have failed to make the software upgrades to their networks that would make access charges unnecessary. According to Paul Misener, manager of telecommunications

⁶¹ *The WEFA Study*, p.11.

at Intel, "Rather than meeting the demand for Internet access, the phone companies want to suppress it by applying a surcharge."⁶²

177. WEFA also believes that increased competition in the long-distance market will lead to increased telecommuting, which will lead to a .5 percent increase in the labor participation rate.⁶³ Yet, the benefits to telecommuting that WEFA attributes to competition in the long-distance market will most likely arise from increased competition in the local and intra-LATA markets. Again, most telecommuting involves local and intra-LATA telephone calls.

178. WEFA's pricing assumptions are also defective. The study uses the same faulty measure of price, standard prices and the CPI, as the other Southwestern Bell experts. The study then goes on to use the same faulty measure of costs as the other Southwestern Bell experts, which fails to include such costs as billing. The study states, with no support, that costs are declining 6 to 7 percent per year. The study then concludes that long-distance prices should have fallen at least 15 to 20 percent in the last four years and that long-distance prices can be expected to fall at least 25 percent in the next five years.⁶⁴ The support for this belief is based on other markets such as the SNET experience. However, the inferences about this market are inaccurate, as I discussed earlier in this affidavit. Both the price measure and the cost measure are seriously biased. The study's conclusion that prices will fall 25 percent over the next five years if Southwestern Bell enters the long-distance market has no basis.

179. In my opinion, the WEFA study has no scientific value. The study has shown no basis for their assumptions of the benefits that Southwestern Bell's entry into long distance will bring to Oklahoma. Moreover, the benefits to information services and telecommuters from increased competition will arise from competition in the local and intra-LATA market, not from competition in the long-distance market.

⁶² "Access Providers, Baby Bells Fighting Over Internet Wealth," *The New York Times CyberTimes*, November 25, 1996.

⁶³ *The WEFA Study*, p. 17.

⁶⁴ *The Economic Impact of Southwestern Bell's Entry into the InterLATA Long Distance Markets of Oklahoma*, prepared by the WEFA Group, April 1997, p.11.

VI. Conclusions

180. I can find no benefit from Southwestern Bell's control of a long-distance carrier other than to Southwestern Bell itself. The company will be able to obtain substantial market shares in Oklahoma's long-distance market both because of its artificial advantage in access and because of its ability to hobble its long-distance rivals. The result will be a reduction in competition in long distance and higher prices to the long-distance consumer. Further, Southwestern Bell's presence in long distance would lower incentives for entry of independent local carriers and inhibit the development of local competition. Local telephone prices would be higher as a result.

181. The Telecommunications Act relies on the principle of structural separation until there is sufficient local competition that the principle is no longer needed. This principle imposes a limitation on telephone carriers—that there may be no joint operation of local and long-distance service. I believe that the principle of structural separation is a sound one under current and near-future conditions, from the point of view of the welfare of the U.S. consumer. Structural separation does *not* reduce the number of sellers in the long-distance market. Nor does structural separation decrease consumer welfare.

182. I believe that consumers benefit from continued structural separation of local service and long distance. Contrary to Southwestern Bell's submissions, structural separation remains a valid principle for governing the telephone industry as long as there is not active competition in local telephone service for all groups of customers.

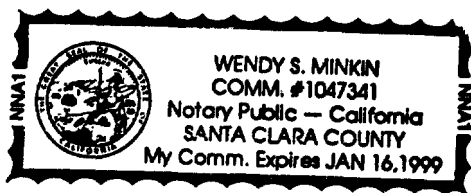
I swear under penalty of perjury that the foregoing is true and correct, to the best of my knowledge and belief.

Robert E. Hall

Robert E. Hall

Subscribed and sworn to before me this 29th day of April, 1997.

My commission expires: 1/16/99



SUBSCRIBED AND SWORN TO BEFORE ME
THIS 29th day of April, 1996
Wendy S. Minkin
NOTARY PUBLIC

Appendix A. Calculation of Revenue Per Minute

Revenue per minute was calculated prior to 1993 using public data and after 1991 using revenue per minute numbers obtained from AT&T, MCI and Sprint. Data for 1992 were used to develop a consistent series.

A. Calculations Prior to 1993

There are three main steps, headed *Revenue Calculations*, *Minutes Calculations*, and *Calculation of Revenue per Minute*. The data sources and calculations for each step are detailed in a spreadsheet that can be obtained from Applied Economics Partners.⁶⁵ This appendix provides an overview of each step. The calculations begin with 1985 data. The calculations rely as much as possible on data available over the entire time period from 1985 to 1992.

1. Revenue Calculation

MTS revenues for AT&T and MTS revenues for all reporting companies were the sum of long-distance message revenues and unidirectional long-distance revenues as reported to the FCC. MCI and Sprint MTS revenues were calculated based on the ratio of the total toll revenues for each to the total toll revenues for all reporting companies as reported to the FCC. International MTS revenues were obtained from the FCC. Domestic MTS revenues were the MTS revenues less the international IMTS revenues for each company.

2. Minutes Calculation

Interstate inter-LATA access minutes for AT&T and all reporting companies were obtained from the FCC, along with the number of interstate and the number of intrastate inter-LATA calls. In some years, the numbers of minutes of interstate and number of intrastate inter-LATA minutes were also available. From these data, inter-LATA access minutes were computed as the number of interstate inter-

⁶⁵ Applied Economics Partners, 1010 El Camino Real, Suite 320, Menlo Park, California 94025.

LATA access minutes times the ratio of total inter-LATA calls or minutes to interstate inter-LATA calls or minutes. MCI data were obtained from MCI.

Bypass access minutes were obtained from the FCC Monitoring Report, July 1991 (1987-1990). The bypass numbers were checked for reasonableness using confidential MCI data. However, the estimate of bypass minutes was less reliable than the other numbers. The confidential numbers obtained for 1992 provided a benchmark for improving these numbers.

Data for international minutes were obtained from the FCC. Prior to 1989, only total international minutes were available. Allocation by carrier was done using international revenues. Since 1989, the number of international minutes is available by carrier.

Domestic inter-LATA access minutes were inter-LATA access minutes plus bypass minutes less international minutes. Inter-LATA conversation minutes were calculated as domestic inter-LATA access minutes divided by 2.07, the ratio of access minutes to conversation minutes calculated by AT&T for its domestic interstate service and used by the FCC to convert access minutes to conversation minutes.

3. *Revenue per minute*

Revenue per minute was calculated as the ratio of domestic MTS revenues and inter-LATA conversation minutes.

B. *Calculations After 1992*

Confidential data on revenues and conversation minutes were obtained for AT&T, MCI and Sprint. These numbers were used to estimate revenues per minute. The revenue per minute for the three carriers was calculated as the weighted average for the three carriers using minutes as weights.

C. *Consistent Data*

To insure consistent data, the two series were linked using 1992 data. The data prior to 1992 were recalculated as the data time the ratio of the revenue per minute from the confidential data for 1992 to the revenue per minute from public sources for 1992.

Appendix B: The Marginal Cost of Access

The marginal cost of access was calculated as follows. First, average interstate access charges in constant 1996 dollars were computed. Then, average inter-LATA access charges in constant 1996 dollars were computed.

The first step in calculating the average interstate access charges was to obtain the premium interstate access charges. A copy of the tariffs from the *FCC Trendline Report*, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, Table 35 is attached. The interstate non-premium charges were computed as 45 percent of the interstate premium rate. Next, the number of premium and non-premium access minutes was obtained from the FCC. These numbers were used as weights to compute the average interstate access charge.

Then, the average interstate access charges were converted to 1996 dollars using the GDP price deflator, chained dollar estimates. This was obtained from Department of Commerce, Bureau of Economic Analysis.

In order to calculate the inter-LATA access charges from the interstate access charges, the ratio of the intrastate access charge to the interstate inter-LATA access charge was obtained from MCI. The ratio of interstate access minutes to total inter-LATA minutes was obtained from FCC data. The inter-LATA access charge in 1996 dollars was then computed as the interstate inter-LATA access charge in 1996 dollars times the ratio of interstate access minutes to total inter-LATA access minutes plus the interstate access charge in 1996 dollars times the ratio of the intrastate access charge to the interstate access charge times the ratio of intrastate inter-LATA access minutes to total inter-LATA access minutes.

These calculations are summarized in Table B-1.

Table 35
Interstate Charges by Local Telephone Companies to Long Distance Carriers
(National Average for "Premium" Service in Cents per Minute) *

Rates in Effect		Interstate Charges for Switched Access Service				
From	To	Carrier Common Line Per Originating Minute*	Carrier Common Line Per Terminating Minute*	Traffic Sensitive Per Switched Minute	Non-Traffic Sensitive Per Switched Minute	Total Charge Per Conversation Minute
05/26/84	01/14/85	5 24 ¢	5 24 ¢	3 10 ¢	**	17 26 ¢
01/15/85	05/31/85	5 43	5 43	3 10	**	17 66
06/01/85	09/30/85	4 71	4 71	3 10	**	16 17
10/01/85	05/31/86	4 33	4 33	3 10	**	15 38
06/01/86	12/31/86	3 04	4 33	3 10	**	14 00
01/01/87	06/30/87	1 55	4 33	3 10	**	12 41
07/01/87	12/31/87	0 69	4 33	3 10	**	11 49
01/01/88	11/30/88	0 00	4 14	3 10	**	10 56
12/01/88	02/14/89	0 00	3 39	3 00	**	9 60
02/15/89	03/31/89	0 00	3 25	3 00	**	9 46
04/01/89	12/31/89	1 00	1 83	3 00	**	9 11
01/01/90	06/30/90	1 00	1 53	2 50	**	7 78
07/01/90	12/31/90	1 00	1 23	2 50	**	7 48
01/01/91	06/30/91	1 00	1 14	2 40	**	7 18
07/01/91	06/30/92	0 88	1 06	2 40	**	6 97
07/01/92	06/30/93	0 79	0 95	2 40	**	6 76
07/01/93	06/30/94	0 88	1 16	2 20	**	6 66
07/01/94	06/30/95	0 84	1 08	2 10	0 28 ¢	6 89
07/01/95	06/30/96	0 74	0 89	1 96	0 21	6 16
07/01/96	06/30/97	0 72	0 89	1 95	0 17	6 04

* These rates are the average of price cap and NECA pool companies. Revenues of these companies comprise approximately 95% of the industry total. The rates are weighted averages of the carriers.

Carrier common line (CCL) charges are weighted by CCL minutes. The other access charges are weighted by local switching minutes. Rates for the current period are those filed to be effective on July 1, 1996.

** Included with other traffic sensitive charges.

Table B-1. Access Charges

<i>Year</i>	<i>Interstate Premium Access Charges</i>	<i>Interstate Non- Premium Access Charges</i>	<i>Interstate Premium Minutes</i>	<i>Interstate Non- Premium Minutes</i>	<i>Interstate Average Access Charge Per Conversation Minute (Cents)</i>	<i>GDP Deflator</i>	<i>Interstate Average Access Charge Per Conversation Minute (1996 Dollars)</i>
	<i>(Cents per Conversation Minute)</i>		<i>(Billions of Switched Access Minutes)</i>				
1985	16.63	7.48	142.50	24.70	15.27	78.555	0.1836
1986	14.58	6.56	167.80	15.20	13.92	80.590	0.1630
1987	11.95	5.38	203.90	11.80	11.59	83.064	0.1317
1988	10.52	4.73	235.50	9.20	10.30	86.104	0.1129
1989	9.21	4.15	269.00	8.00	9.07	89.724	0.0954
1990	7.65	3.44	300.40	7.10	7.55	93.639	0.0761
1991	7.10	3.20	322.30	5.80	7.03	97.321	0.0682
1992	6.85	3.08	344.90	4.60	6.80	100.000	0.0642
1993	6.70	3.02	1.00	0.00	6.70	102.616	0.0616
1994	6.78		1.00	0.00	6.78	104.958	0.0609
1995	6.53		1.00	0.00	6.53	107.565	0.0573
1996	6.10		1.00	0.00	6.10	109.619	0.0525

Table B-1. continued

	<i>Ratio of Intrastate To Interstate</i>	<i>Interstate Minutes to Total Inter-LATA Minutes</i>	<i>Average Inter-LATA Access Charge per Conversation Minute (1996 \$)</i>
1985	1.00	0.76	0.1836
1986	1.13	0.76	0.1682
1987	1.26	0.76	0.1401
1988	1.39	0.76	0.1237
1989	1.52	0.77	0.1070
1990	1.65	0.74	0.0890
1991	1.60	0.75	0.0782
1992	*	*	0.0732
1993	*	*	0.0697
1994	*	*	0.0652
1995	*	*	0.0635
1996	*	*	0.0577

Source: Access charge tariffs from *FCC Trendline Report, op. cit.*; premium, non-premium minutes from FCC SOCC, Table 8.09.

GDP deflator from U.S. Department of Commerce, Bureau of Economic Analysis; average access charges from MCI internal documents.

* denotes confidential data.

Appendix C. Curriculum Vitae of Robert E. Hall

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Born August 13, 1943, Palo Alto, California

PhD in economics, MIT, 1967

BA in economics, University of California, Berkeley, 1964

Senior Fellow, Hoover Institution, and Professor, Department of Economics, Stanford University, since 1978

Previously Professor of Economics, MIT (1974-78), Associate Professor of Economics, MIT (1970-74), Acting Associate Professor of Economics, University of California, Berkeley (1969-70), Assistant Professor (1967-69)

Fellow, American Academy of Arts and Sciences

Fellow, Econometric Society

Director, Research Program on Economic Fluctuations, National Bureau of Economic Research, since 1977

Member, Advisory Committee, Congressional Budget Office, since 1993

Member, Oversight Panel for Economics, National Science Foundation, 1989, and Advisory Panel for Economics, 1970-72

Member, Yale University Council Committee on Social Sciences—Policy, 1989-94

Member or Senior Advisor, Brookings Panel on Economic Activity, since 1970

Member, President's Advisory Committee on Productivity, 1981-82

Books

Economics: Principles and Applications (with Marc Lieberman) South-Western, 1997 (forthcoming)

Booms and Recessions in a Noisy Economy, Arthur Okun Memorial Lectures, Yale University Press, New Haven, Connecticut, 1991.

The Rational Consumer: Theory and Evidence, MIT Press, Cambridge, Massachusetts, 1990.

Macroeconomics (with John Taylor), W.W. Norton, 1986. Second edition, 1988. Third edition, 1991. Fourth edition, 1993. Fifth edition, forthcoming, 1997.

The Flat Tax (with Alvin Rabushka), Hoover Press, 1985. Second edition, 1995.

Low Tax, Simple Tax, Flat Tax (with Alvin Rabushka), McGraw-Hill, 1983.

Inflation: Causes and Effects, University of Chicago Press for the National Bureau of Economic Research, 1982 (editor).

Selected Articles

"Irving Fisher's Self-Stabilizing Money." *American Economic Review Papers and Proceedings*, forthcoming, May 1997.

"Levels of Economic Activity Across Countries" (with Charles I. Jones) *American Economic Review Papers and Proceedings*, forthcoming, May 1997.

"The Productivity of Nations" National Bureau of Economic Research Working Paper 5812, November 1996 (with Charles I. Jones)

"Macroeconomic Fluctuations and the Allocation of Time," *Journal of Labor Economics*, forthcoming.

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Attachment 1

**An Analysis of Switched Access Pricing and the
Telecommunications Act of 1996**

By

Franklin M. Fisher

AN ANALYSIS OF SWITCHED ACCESS PRICING AND THE TELECOMMUNICATIONS ACT OF 1996

By

FRANKLIN M. FISHER¹

1. I have been asked by MCI Telecommunications Corporation to analyze the economic effects of setting the interstate switched access charges paid by interexchange carriers ("IXCs") substantially above economic cost in the new telecommunications environment created by the Telecommunications Act of 1996. I will address how the 1996 Act will change the market environment and the resulting impact of above-cost pricing of switched access.
2. The primary conclusions of my analysis are:
 - Provisions of the Telecommunications Act of 1996 opening the way for local competition are unlikely soon to result in completely competitive markets that drive switched access prices to cost.
 - If incumbent local exchange carriers ("ILECs") are allowed to set switched access prices far above economic cost, incentives for entry and investment in local markets will be distorted. High switched access prices also will increase the incentives of ILECs to block or limit competition from new local carriers.
 - High switched access prices will give the Regional Bell Operating Companies ("RBOCs") an artificial advantage in competing for interexchange business in their regions. This advantage will distort interexchange competition, inducing consumers to choose RBOC service when that otherwise would not be the most efficient choice, and allowing the RBOCs to capture a larger market share than they otherwise would. RBOC stockholders need share only a limited portion of their advantage with consumers of interexchange service because the continued burden of high switched access prices will limit other IXCs' ability to compete.

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- Separate subsidiary and related imputation rules in the 1996 Act cannot be expected to make RBOCs act as if switched access prices were a real cost for their interexchange services.
- A general lowering of switched access prices would provide considerable benefits, encouraging efficient, while discouraging inefficient, investment by competitive LECs ("CLECs") and by RBOCs in interexchange services, and allowing all consumers to benefit from lower costs of switched access for all interexchange carriers.

EFFECTS OF HIGH SWITCHED ACCESS PRICES BEFORE THE 1996 ACT

3. The substantial difference between the price paid by IXC's for switched access and the economic cost to ILEC's of supplying access can be thought of as a tax levied on users of switched access, albeit one paid to ILEC's rather than to the government. The claimed intent of this tax has been to provide support for universal service and other social objectives. Nonetheless, as the Commission has understood, like almost all taxes, this tax changes the market behavior of producers and consumers and imposes losses in economic efficiency and welfare.
4. First, setting the price of switched access substantially above cost has resulted in IXC prices for interstate toll services using switched access that exceed the true cost of the end-to-end service. The resulting decline in consumption of interstate interexchange service reduces consumer surplus as consumers are deterred from making calls they would value more than the overall cost of supplying those calls. Up to now, however, high switched access prices have had a limited effect on consumers' choices among competing IXC's because all IXC's paid the same tariffed rates for switched access service.
5. Second, high switched access rates distort IXC's choices of access arrangements. IXC's have an alternative to switched access for customers with higher traffic volumes: both ILEC's and competitive access providers offer direct connections between the customer and the IXC's point of presence ("POP") at prices substantially closer to cost than switched access. Within a range of traffic volumes, the high price of switched access sends an inaccurate signal that causes IXC's to

substitute a higher-cost (albeit lower-priced) dedicated connection. This is inefficient bypass. The input substitution limits the prices charged consumers (and thus the loss of consumer surplus), but creates an inefficiency: use of the more costly input increases the true cost of producing the service.

EFFECTS ON LOCAL SERVICE AFTER THE 1996 ACT

6. Allowing ILECs to charge high switched access prices will have a strong effect on the development of competition in local service – a central purpose of the 1996 Act. Allowing ILECs to set high switched access prices would have little effect on the development of local competition if market pressure from competing suppliers of local services, including switched access services, would quickly force ILEC switched access prices to cost, but I do not believe this will occur.

7. CLECs will supply both local service and switched access services to their subscribers, and CLEC switched access will therefore add a third alternative to the two choices IXC's now have for access arrangements – ILEC switched access and dedicated access.² CLECs will have to commit investments in some facilities to become competing suppliers of switched access and local service; simply reselling ILEC local service will not be sufficient. A CLEC will not sink investments unless it expects to earn sufficient net revenues. Those expected returns will depend on the demand the CLEC anticipates for its services, which in turn will depend on the price of ILEC switched access with which it will have to compete. The ILEC price that matters for the CLEC's expected returns is not today's price, but rather the switched access price the ILEC is expected to charge in response to actual or potential entry.

8. An ILEC that prices its switched access above cost could respond to CLEC entry in one or

² Customers must subscribe to CLEC local service before IXC's can use CLEC-supplied switched access. By subscribing, however, a customer effectively chooses a supplier of switched access as well as of local service. If a CLEC charges less in total for these two services, there will be ways to insure that this is reflected in prices customers pay and therefore that customers take it into account when choosing their local carrier.

more of three ways: (1) by uniformly lowering prices for switched access service, (2) by targeting lower prices for customers most likely to switch to other carriers, or (3) by adjusting the pricing and supply of other inputs used by competing local carriers. I examine each response in turn.

9. *Uniform Price Reductions.* An ILEC allowed to set high switched access prices will not find it profitable to institute a major, uniform reduction of those prices if it can retain a substantial portion of its switched access revenues without doing so because, for example, many customers have either no or limited competitive alternatives, or are reluctant to shift to a new local carriers.

10. The resulting high prices the ILEC would continue to charge will distort the choice between ILEC and CLEC switched access service in essentially the same way that high switched access prices have distorted the choice between switched and dedicated access. IXCs (and customers) will choose CLEC-supplied switched access in cases where it is more costly to supply, but it appears less costly because the price of ILEC-supplied access is so far above cost. CLECs will be given incentives to invest in supplying service less efficient than ILEC service that they would not have if ILEC switched access prices were set at cost. This incentive for "inefficient bypass" created by high ILEC switched access prices could become a driving force in determining investment in competing local services. Customers might enjoy somewhat lower prices as a result of the additional investment and entry induced by high ILEC access prices, but at the welfare cost of less efficient, higher cost production.

11. *Targeted Price Reductions.* Aggressively lowering switched access prices in response to entry is much more likely to be profitable if the ILEC can target the reductions at those customers most likely to switch local carriers. To the extent the ILEC can target lower prices, the CLEC will expect to compete with lower prices and to earn lower returns on its investments. That in turn will deter some CLEC investment.

12. Targeted reductions in downstream prices are likely to be easy for the ILEC to implement if the ILEC offers interexchange service and can offer lower interexchange service prices to relatively high volume users who continue to subscribe to ILEC local service. Customers that use

relatively large quantities of switched access are more likely to switch to a CLEC because shifting would enable them to avoid a larger "tax" burden imposed by high switched access charges. It will likely be easier for the ILEC to target lower interexchange prices at these customers (thereby effectively lowering switched access prices), than to target lower local service prices, if only because regulators are less likely to allow local service prices to depend on interexchange usage.

13. Thus, there is a danger that RBOC re-entry into interexchange service would facilitate the targeting of lower prices at customers most likely to switch to CLEC service and deter some entry and investment by competing carriers. This would reduce the incentive for investment in higher cost facilities otherwise created by high ILEC prices for switched access. At the same time, however, it also would deny consumers the benefits of lower prices generated by such entry and investment, and any net welfare gains that could result. The ILEC does not have to lower prices in advance of CLEC entry or expansion in order to deter CLEC investment since it is the expected response of the ILEC that is the deterrent.³

14. *Non-Price Discrimination.* Entrants will find it costly or even economically infeasible to provide local service if they cannot purchase one or more service inputs from the incumbent, such as interconnection to terminate calls to ILEC subscribers and use of ILEC local loops. This gives ILECs a way of responding to competition without lowering their switched access prices.

Raising the prices that entering carriers must pay for these inputs, refusing to supply inputs in the way that best serves the needs of entering carriers, or otherwise degrading the quality of the inputs are means of raising the costs of entering carriers. Such responses can only deter entry or protect ILEC prices against the effects of that entry, and thereby jeopardize the benefits to consumers of lower prices and more efficient sources of supply.

15. High switched access prices increase the incentives of ILECs to use the pricing and

³ In addition, an RBOC's use of its interexchange service to target price reductions also will distort competition among interexchange carriers, an effect discussed below.

supply of inputs to limit competition from other local carriers. The ILEC will be more willing to sacrifice profits on the sale of inputs for other carriers' services when doing so protects larger, rather than smaller, switched access profits in "downstream" markets. I recognize that the 1996 Act mandates that incumbent local exchange carriers provide access to such input services on non-discriminatory terms and establishes standards for the pricing of these inputs. Such requirements, however, do not make the strength of ILEC incentives irrelevant. The requirements have to be both implemented and enforced – a difficult and costly challenge.

16. In sum, if ILECs are allowed to charge high switched access prices, they will attempt to protect the resulting revenues, and those efforts will have a substantial effect on competitive entry and the development of local competition. By contrast, preventing ILECs from setting switched access prices well above cost in the first place would effectively both eliminate the incentives of CLECs to invest in inefficient facilities, and allow consumers to realize the benefits of lower prices.

EFFECTS ON INTEREXCHANGE COMPETITION AFTER THE 1996 ACT

17. High prices for switched access will give an RBOC an artificial advantage in competing for long distance business from customers in its service area. This advantage is artificial in the sense that an RBOC gets this advantage not because it inherently is a low-cost supplier, but rather because its position as a supplier of both switched access and interexchange services gives it an opportunity not available to IXC's to partially evade high switched access prices. This advantage, as I explain below, does not depend on the RBOC using its control of switched access to provide rival IXC's with inferior quality access, or to predatorily force rival IXC's out of business in order to raise prices later (two strategies I do not address).

The RBOCs' Marginal Cost Advantage

18. The marginal costs of an IXC can be thought of as the sum of three components: (1) the marginal cost of its downstream service net of access, including the cost of carrying additional traffic between its POPs, of billing for service, and of marketing; (2) the underlying cost of the

access service it purchases; and (3) the difference between the price and cost of the access service.

19. The first two components of marginal cost for an in-region RBOC are similar to those of an IXC, but the third differs. An RBOC will not count the price it charges IXCs for switched access a cost of the switched access it supplies to itself. Instead, since an RBOC wants to maximize the sum of its profits from interexchange and switched access services, it will count as a cost of its interexchange service the "opportunity cost" of any net revenue from selling switched access that it forgoes as a consequence of selling more interexchange service.

20. High switched access prices will give an RBOC selling in-region interexchange service advantages in two circumstances. First, high switched access prices sometimes will induce IXCs to choose inefficient access arrangements with higher marginal costs than those used by the RBOC service. Second, when both the RBOC and IXCs use switched access, the last component of RBOC marginal costs – the switched access net revenue it forgoes by selling more interexchange service – may be less than the last component of an IXC's cost – the difference between the price it pays for access and the cost of producing switched access service.

21. *Inefficient Bypass.* IXCs often use dedicated access not because it is more efficient, but because the high price of switched access makes dedicated access less costly to the IXC. An RBOC's interexchange service will use switched access to serve these customers. The RBOC's choice will be based on the true marginal costs of switched and dedicated connections since the RBOC self-supplies both. Since switched access is lower cost than dedicated access when IXCs inefficiently bypass, this will lower RBOC marginal costs relative to IXCs' costs. RBOC interexchange service will gain a similar advantage if high ILEC switched access prices induce IXCs to use inefficient switched access supplied by a CLEC (whether affiliated or unaffiliated with the IXC) instead of more efficient ILEC switched access. In these circumstances, the price it charges others for switched access has no effect on the marginal costs of the RBOC's own interexchange service. The RBOC has no opportunity cost of foregone switched access net reve-